

Amendment to the Claims:

This listing of claims will replace all previous versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-36 (Cancelled).

Claim 37. (new) A process for the recovery of lactic acid from an aqueous solution containing a water-soluble lactate salt and having a pH between 4 and 14, which process comprises:

(a) contacting said aqueous solution with a protonated cation exchanger to form an aqueous solution of lactic acid and a cation exchanger having cations bound thereto, said cations being derived from said lactate salt;

(b) regenerating said protonated cation exchanger to yield a second product, wherein said second product is a basic form of said cation of said lactate salt; and

(c) recovering lactic acid from said aqueous solution of lactic acid.

Claim 38. (new) The process of claim 37, wherein said recovery of lactic acid occurs simultaneously with said formation of said aqueous solution of lactic acid in step (a).

Claim 39. (new) The process according to claim 37, wherein said regenerating step

comprises heating said cation exchanger having cations bound thereto.

Claim 40. (new) A process for the recovery of lactic acid from an aqueous solution containing a water-soluble lactate salt and having a pH between 4 and 14, which process comprises:

(a) contacting said aqueous solution with a protonated cation exchanger to form an aqueous solution of lactic acid and a cation exchanger having cations bound thereto, said cations being derived from said lactate salt;

(b) contacting said cation exchanger having cations bound thereto with an acidic salt of a di- or triprotic acid to regenerate said protonated cation exchanger and to neutralize the acidic salt, said neutralized salt containing a cation derived from said lactate salt and an anion of said neutralized acidic salt of a di- or triprotic acid;

(c) heating said neutralized salt to yield a second product, wherein said second product is a basic form of said cation of said lactate salt, and to regenerate said acidic salt of said di- or triprotic acid; and

(d) recovering lactic acid from said aqueous solution of lactic acid.

Claim 41 (new) The process according to claim 40, wherein said acidic salt of a di- or triprotic acid is an acidic sulfate salt having the formula NH_4HSO_4 or MHSO_4 where M is an alkali cation.

Claim 42 (new) The process according to claim 41, wherein said acidic sulfate salt has the formula NH_4HSO_4 or NaHSO_4 .

Claim 43. (new) The process according to claim 37 or 40, wherein said cation exchanger is a water-immiscible liquid cation exchanger.

Claim 44. (new) The process according to claim 37 or 40, wherein said cation exchanger is a solid cation exchanger.

Claim 45. (new) The process according to claim 37 or 40, wherein said second product is used as a neutralizing agent in fermentation.

Claim 46. (new) The process according to claim 37 or 40, wherein said recovery of said lactic acid from said lactic acid aqueous solution is effected by contacting said solution with a lactic acid extractant.

Claim 47. (new) The process according to claim 37 or 40, wherein said recovery of said lactic acid from said aqueous solution is effected by contacting said solution with a lactic acid absorbent.

Claim 48. (new) The process according to claim 37 or 40, wherein said recovery of said lactic acid from said aqueous solution is effected by contacting said solution with an anion exchanger in its free base form.

Claim 49. (new) The process according to claim 48, wherein said anion exchanger is a water-immiscible liquid anion exchanger.

Claim 50. (new) The process according to claim 48, wherein said anion exchanger is a solid anion exchanger.

Claim. 51. (new) The process according to claim 48, wherein said anion exchanger, in its free base form, has an apparent basicity corresponding to pKa of not higher than 6.

Claim 52. (new) The process according to claim 48, wherein said anion exchanger, in its free base form, has an apparent basicity corresponding to pKa of not higher than 4.5.

Claim 53. (new) The process according to claim 48, wherein said cation exchanger and said anion exchanger are simultaneously contacted with said lactate salt-containing aqueous solution.

Claim 54. (new) The process according to claim 48, wherein said cation exchanger and said anion exchanger are repeatedly alternately contacted with said lactate salt-containing aqueous solution.

Claim 55. (new) The process according to claim 48, wherein said anion exchanger is separated from said lactate salt-containing aqueous solution by an anion exchange membrane.

Claim 56. (new) The process according to claim 48, wherein said anion exchanger is

separated from said lactate salt-containing aqueous solution by a dense neutral hydrophilic membrane.

Claim 57. (new) The process according to claim 48, wherein said anion exchanger is separated from said lactate salt-containing aqueous solution by a dense neutral hydrophobic membrane.

Claim 58. (new) The process according to claim 37 or 40, wherein said cation exchanger is separated from said lactate salt-containing aqueous solution by a cation exchange membrane.

Claim 59. (new) the process according to claim 37 or 40, wherein said cation exchanger is separated from said lactate salt-containing aqueous solution by a dense neutral hydrophilic membrane.

Claim 60. (new) The process according to claim 37 or 40, wherein said cation exchanger is separated from said lactate salt-containing aqueous solution by a dense neutral hydrophobic membrane.

Claim 61. (new) The process according to claim 37 or 40, wherein said cation exchanger, in its free acid form, has an apparent acidity corresponding to a pKa of not lower than 2.

Claim 62. (new) The process according to claim 37, wherein said regenerating in step (b) comprises a thermal hydrolysis to regenerate said cation exchanger in its acid form and to yield said second product.

Claim 63. (new) The process according to claim 62, wherein said second product is selected from the group consisting of hydroxides, carbonates and bicarbonates of alkali and alkaline earth metals.

Claim 64. (new) The process according to claim 39 or 40, wherein said heating is conducted at a temperature higher than 80°C.

Claim 65. (new) The process according to claim 39 or 40, wherein said second product is transferred into a vapor phase.

Claim 66. (new) The process according to claim 37 or 40, wherein said lactate salt is ammonium lactate and said second product is ammonia.

Claim 67. (new) The process according to claim 37 or 40, wherein said lactate salt is a product of fermentation.

Claim 68. (new) The process according to claim 37 or 40, wherein said contacting in step (a) is conducted in a CO₂-containing atmosphere.